

**REMARKS**

Claims 1, 2, 8, 9, and 11-21 were previously pending in this application. Claims 22-24 are new to this application. Claims 3-7 and 10 are cancelled. Claims 1, 8, and 16 are the pending independent claims.

**Rejections Under 35 U.S.C. § 112, second paragraph**

Claims 1, 8, 16, and 20 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Claims 1, 8, 16, and 20 have been amended to recite that the coating composition comprises silver nano particles in an amount effective to provide at least an antimicrobial effect. At page 3 of the Office Action, the Examiner stated that “page 11 of the specification defines the quantity of silver particles needed for the desired antimicrobial effect.” Accordingly, Applicants respectfully submit that the amended claims are supported by the specification at page 11.

**Rejections Under 35 U.S.C. § 103(a)**

Claims 1, 2, 8, 9, and 11-21 are rejected under 35 U.S.C. § 103(a) as obvious over Vanderlaan et al. (U.S. Pub. No. 2002/0197299) in view of Schlitzer (WO 95/34327) and Yadav et al. (U.S. Pub. No. 2005/0008861).

**Vanderlaan et al. Describes Embedded Particles That Have to Be Activated**

Vanderlaan et al. describes contact lenses and containers where the silver is incorporated/molded into the polymer used to make the containers and lenses. In order to obtain the antimicrobial effect of the silver, the silver has to be activated with an oxidizing agent. As acknowledged by the Examiner at the top of page 5 of the Office Action, Vanderlaan et al. does not describe using silver in a coating.

There are several drawbacks to this incorporation/in-molding of silver described by Vanderlaan et al. The most important drawback is that silver is distributed within the polymer but only the silver at the surface can be mobilized and the rest of the incorporated silver is unavailable. This may further greatly affect the cost of the lens.

Schlitzer's Coating Has to be Combined with Quaternary Ammonium to Have Antimicrobial Activity

Schlitzer describes a contact lens case having a silver coating in combination with a solution containing a quaternary ammonium compound. Schlitzer describes this combination as having bactericidal effect. Schlitzer does not teach or suggest that the silver in the coating is nanosized silver. Schlitzer also states that silver doesn't have to be the coating; it can also be platinum, palladium, iridium, gold, mercury, copper, zinc, germanium, or other Group 3 through Group 16 metals and alloys to provide the antimicrobial activity when used in combination with the quaternary ammonium compound.

Significantly, at page 2, lines 1-7, Schlitzer describes coatings containing thin film layers of platinum, palladium, iridium, gold, silver, mercury, copper, zinc, germanium, or other Group 3 through Group 16 metals and alloys (which is the same list as described in the coatings of Schlitzer's invention) and goes on to state that "these coatings alone have not eliminated contamination of the solution within the contact lens case" (emphasis added).

Accordingly, Applicants respectfully submit that Schlitzer teaches away from using a coating of silver nanoparticles because Schlitzer specifically states that the coatings alone will not work. Instead, it is the combination of the coating and the quaternary ammonium compound that provides the antimicrobial activity. There is

also no teaching or suggestion in Schlitzer that using silver nanoparticles would be any more successful for providing an antimicrobial effect.

**Yadav et al.'s Antimicrobial Coating is Actually Silver-Coated Nanoparticles, Not Silver Nanoparticles**

Yadav et al. describes a large number of uses for silver nanoparticles. Paragraph [0140] of Yadav et al. states that silver comprising nanoparticles can be added into contact lens polymers (as opposed to coating a contact lens case) and to lens cleaning formulations, which is more akin to the Vanderlaan et al. reference. The Examiner cites paragraph [0172] of Yadav et al. for describing nanoparticles used as coatings. Paragraph [0172] is part of Example 12. Example 12, and referring specifically to the very end of paragraph [0171], states that silver coated zinc oxide particles are formed. Accordingly, the next paragraph (paragraph [0172] as cited by the Examiner) is actually referring to silver coated nanoparticles, not silver nanoparticles.

While paragraph [0071] describes coating nanoscale powders on a plastic, Yadav et al. does not describe this coating as having any antimicrobial effect.

**The Cited References Do Not Combine to Provide the Claimed Invention**

In the claimed invention, the silver nanoparticles are coated onto the surface of the contact lens container and not in-molded in the polymer used to make the container.

The silver nanoparticles of the claimed invention are not the same as the nanoparticles coated with silver described in Yadav. Other embodiments of Yadav et al.'s involve silver that is embedded into polymer (*see, e.g.,* [0070]) or else coatings that are not described as antimicrobial (*see, e.g.,* paragraph [0071]).

Furthermore, coating of the contact lens container with silver nanoparticles as claimed herein is easier than in-molding of Vanderlaan and Yadav and is not as expensive due to the lower amount of silver nanoparticles required for the same antimicrobial effect. Thus, the claimed invention provides important advantages over both Yadav and Vanderlaan.

Further, Applicants respectfully submit that there is no reason to believe that a coating of silver nanoparticles (and not silver coated nanoparticles of Yadav) would have an antimicrobial effect similar to that described in Yadav et al. at paragraph [0140] with respect to silver comprising nanoparticles being added into contact lens polymers and to lens cleaning formulations. There is simply no teaching or suggestion of that in Yadav.

Moreover, due to Schlitzer's teaching that silver coatings alone are not effective to prevent contamination, one of ordinary skill in the art would not be motivated to use a silver coating as an antimicrobial. Schlitzer actually teaches away from the claimed invention. Moreover, any combination of the cited references would require using Vanderlaan's silver that has to be activated or Yadav et al.'s nanoparticles coated with silver or nanoparticles embedded in polymer to have any antimicrobial effect. None of those possibilities are claimed herein.

Application No. 10/599,017

AMENDMENT B

The Commissioner is hereby authorized to charge any additional fees which may be required in this Application to Deposit Account No. 06-1135.

Respectfully requested,

FITCH, EVEN, TABIN & FLANNERY

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